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Final Environmental Impact Statement

Sugarloaf Hazardous Fuels Reduction Project

Feather River Ranger District, Plumas National Forest
Plumas and Sierra Counties, California

Rabbit Creek lies between 4,200 to 5,200 feet in elevation in the north eastern portion of the Sugarloaf Project area. Photograph taken by Susan Cueva (USDA 2012).

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Abstract: The USDA Forest Service, Feather River Ranger District of the Plumas National Forest (PNF) has prepared the Sugarloaf Hazardous Fuels Reduction Final Environmental Impact Statement (FEIS) to disclose the analysis of the No-action Alternative (Alternative A), the preferred Alternative D and two other land management alternatives (Alternative B and C), as a step toward achieving desired ecologically healthy forests and watersheds better able to adjust and thrive in the face of climate change and large scale disturbances such as fire, drought and insect and disease attacks, while increasing benefits citizens will receive such as improved delivery of clean water, wood and jobs to contribute to the economic stability of rural communities. Alternative A proposes no action (status quo) providing a baseline against which the action land management alternatives can be compared. Alternative B is designed to test vegetative, fuels reduction and riparian restoration *Herger-Feinstein Quincy Library Group Forest Recovery Act* (HFQLG Act) Pilot Project activities, requiring a non-significant Forest Plan amendment. Alternative B proposes 992 acres of defensible fuel profile zone (DFPZ) area treatments and 71 acres of group selection (GS) expected to produce 5.8 million board feet of commercially-valuable timber volume; 20.3 miles of NFS road improvements, decommissioning and obliteration; 223 acres of mastication; 683 acres of hand thin, pile, and burn and 3,919 acres of prescribed fire using manual ignition (i.e. drip torch) techniques. Alternative C proposes to implement 1,315 acres of fuel treatments by applying thin from below expected to produce 5.3 million board feet of commercially-valuable timber volume; 334 acres of mastication, 1,542 acres of hand thin, pile, and burn; 91 acres of hand thin, grapple pile, and burn and 3,643 acres of prescribed fire in accordance with the 2004 SNFPA FSEIS and ROD. Approximately 5 miles of road would be redesigned and/or upgraded with drainage features along PC511A and NFS roads 22N53, 21N18A and 21N42Y to mitigate short term effects to water quality. Alternative D includes 859 acres of variable density thinning and 76 acres of thin from below expected to produce 4.6 million board feet of commercially-valuable timber; 20.3 miles of NFS road improvements, decommissioning and obliteration; 278 acres of mastication; 1,401 acres of hand thin, pile, and burn; 71 acres of hand thin, grapple pile, and burn and 3,598 acres of prescribed fire in accordance with the 2004 SNFPA FSEIS and ROD.

The Sugarloaf Hazardous Fuels Reduction Final Environmental Impact Statement (FEIS) is available on the Plumas National Forest website: http://www.fs.fed.us/r5/plumas/projects_and_plans/sugarloaf hazardous fuels reduction/

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Summary

Ecological Restoration is at the core of the U.S. Forest Service mission to sustain the health, diversity and productivity of the Nation's forests to serve the needs of present and future generations. The call for ecological restoration is widely recognized due to the myriad of threats to our watershed including catastrophic wildfire, climate change, and increasing human population pressures with cumulative impacts.

The Feather River Ranger District of the Plumas National Forest (PNF) is proposing the Sugarloaf Hazardous Fuels Reduction Project (Sugarloaf Project) to take a step toward restoring localized water quality, fire behaviors and ecologically healthy forests better able to adjust and thrive in the face of climate change, wildfire, drought, and insect and disease attacks, while increasing benefits citizens will receive such as jobs, improved delivery of clean water and wood products to contribute to the economic stability of rural communities.

In order to meet the elements of the purpose and need of this project and respond to the need for watershed improvement, the following treatments are proposed: strategically-placed vegetative and fuels reduction treatments (mechanical variable density thinning and area thinning from below), manual (hand cutting); prescribed fire techniques including prescribed underburning in the Valley Creek Special Interest Area (SIA) and road improvements around the communities of the La Porte and American House.

The Sugarloaf Project is located south of Little Grass Valley Reservoir, from Goat Mountain in the north to community of American House in the south, surrounding the community of La Porte on National Forest System (NFS) land. The project encompasses all or portions of T. 21 N., R. 8 E., sec. 24-26; T. 21 N., R. 9 E., sec. 2, 3, 5-10, 14-22, 27-32, MDM. The treatment areas proposed on NFS lands range in elevation from 4,000 to 5,800 feet above mean sea level.

The Feather River Ranger District of the Plumas National Forest (PNF) has designed the proposed action to incrementally move existing degraded watershed and forest ecosystems vulnerable to wildfire toward desired ecologically healthy conditions, resilient with proper hydrologic function. Residents living in La Porte, American House and surrounding areas rely on the Forest Service for effective wildfire suppression and active management of public lands for clean water, biodiversity beneficial amenities and uses supporting recreation, tourism, quality of life, home heating (firewood), jobs and wood products, to name a few.

Since the early 1900s, large scale hydraulic mining on private lands, logging and road building have caused localized increases to in-stream sedimentation levels. There is a need to obliterate, decommission and repair improperly constructed and unmaintained roads increasing sediment levels in streams down-slope. Fire exclusion has decreased the incidence of historic low intensity fires, allowing for a build-up of surface and canopy fuels and reduced tree vigor. There is a need for excessive fuel accumulations (fuel loading) to be reduced to decrease risks to people, structures, and natural resources from wildfire.

There is a need for tree densities and tree species diversity to be altered to address declining tree vigor and loss of pine and oak species, which were historically abundant. There is a need to contribute to local forestry-related employment and provide forest products offerings, while retaining aesthetically pleasing landscape features, biodiversity and clean water supporting tourism related income vital for rural communities such as La Porte.

The desired condition is a fire-resilient landscape featuring uneven-aged, multi-storied, forestlands abundant with thick-bark, tall ponderosa, sugar pine, oak and dispersed large Douglas-fir and incense cedar. Healthy tree crowns (the uppermost part of the tree) are sufficiently spaced to limit the spread of rapid crown fire during periods of high temperature, low humidity, high wind, and low fuel moisture conditions, particularly on the upper slopes and along mountain ridges. The ecological vegetative and fuels conditions are resilient to climate change forecasts of increasing number of days above mean average conditions and longer fire seasons.

The desired condition within the Valley Creek Special Interest Area (SIA), spatially overlapping California spotted owl protection activity centers (CSO PACs) and surrounding home range core areas (HRCAs), is large trees with sufficient canopy cover to allow for nesting, filtered light conditions on the forest floor, a diversity of understory plants, adequate soil moisture and duff levels.

The desired condition for watershed health is a resilient, proper functioning sediment regime featuring a well-designed, low density transportation system, free flowing cold, clean waterways and healthy and diverse aquatic habitats.

The desired condition for community stability is local economies served by beneficial uses, biodiversity, available timber and biomass supplies promoting family wage jobs.

The Sugarloaf Project was scoped with the publication of the Notice of Intent in the *Federal Register* on Tuesday, June 5, 2012 (Vol. 77, No.108, pp. 33158-33159), disclosing Alternative B as the proposed action, designed to fulfill mandates per the *Herger-Feinstein Quincy Library Group Forest Recovery Act* (HFQLG Act). On June 27, 2012, during the initial 45-day scoping period, comments were received from two organizations and several residents. A public meeting was held on June 18, 2012; attended by two organizations and several landowners living adjacent to the project area in La Porte.

On September 30, 2012, the *2008 Consolidated Appropriations Act* authorities to implement the HFQLG Act ended. For this reason, the selection of Alternative B requires a non-significant Forest Plan amendment.

On Friday, July 26, 2013, the Forest Service initiated an official 45 day comment period with the publication of the Notice of Availability (NOA) of the Draft EIS (DEIS) in the *Federal Register* (Vol. 78, No. 144, pg. 45190). A comment period notice was also published in the *Feather River Bulletin* on the July 26, 2013, available for review on the Plumas National Forest website: http://www.fs.fed.us/r5/plumas/projects_and_plans/sugarloaf hazardous fuels reduction/. Comments were received from two agencies and two organizations.

The response to comments can be found in Appendix A-9 of this FEIS. A compilation of comments received is located in the project record at Feather River Ranger District in Oroville, California.

Table S-1 includes a summary of the proposed action and the three other alternatives considered in detail for the Sugarloaf Hazardous Fuels Reduction FEIS, discussed further in chapter 2.

Table S-1. Description of Alternatives considered in detail.

Alternative Description
Alternative A: The No-action Alternative provides a baseline against which to compare the other action Alternatives. This Alternative does allow for on-going administrative activities within the Project Area, such as reforestation, road maintenance, roadside danger tree felling, fire suppression, and dispersed recreation. Under the No-action Alternative, current land management direction would continue to guide activities on National Forest System land (NFSL).
Alternative B. Alternative B is designed implement *Herger-Feinstein Quincy Library Group Forest Recovery Act* (HFQLG Act) Pilot Project activities and requires a Forest Plan amendment. This Alternative incorporates road improvements, decomissioning and obliteration similar to Alternative D, while establishing defensible fuel profile zones (DFPZs) and Group Selection (GS) treatments under standards and guidelines in the 2004 Sierra Nevada Forest Plan Amendment ROD; Table 2. *Alternative B proposes*: 992 acres of DFPZ thinning with 763 acres of variable density thinning and 229 acres of thinning from below; 71 acres of group selection (GS); 223 acres of mastication; 683 acres of hand thin, pile, and burn; 3,919 acres of prescribed fire using manual ignition (i.e., drip torch) techniques 20.3 miles of NFS road would be improved, decomissioned or obliterated to promote watershed health. Wood by-products from these treatments are expected to produce 5.8 million board feet of commercially-valuable timber volume, requiring 4.9 miles of NFS classified road reconstruction, 4.3 miles of unclassified (temporary) road construction (closed post operations) and the construction of 31 new log landing sites.

Alternative Description
Alternative C: Alternative C is designed to fulfill land management direction as described in the Plumas National Forest Land and Resource Management Plan (PNF LRMP) (USDA 1988) as amended by the Sierra Nevada Forest Plan Amendment (SNFPA) FSEIS and ROD (USDA 2004a, 2004b) with emphasis on reducing hazardous fuels in the wildland urban interface (WUI). It does not respond to the forest or watershed improvement elements of the purpose and need. *Alternative C proposes*: 1,315 acres of area fuel treatments by thinning from below; 334 acres of mastication; 1,542 acres of hand thin, pile, and burn; 91 acres of hand thin, grapple pile, and burn; 3,643 acres of prescribed fire, including 331 acres within the federally-administered Valley Creek Special Interest Area (SIA). Wood by-products from these treatments are expected to produce 5.3 million board feet of commercially-valuable timber volume, requiring 3.5 miles of NFS classified road reconstruction, 2.8 miles of unclassified road construction (closed post operations) and the construction of 21 new landing sites. Approximately 5 miles of road would be redesigned and/or upgraded with drainage features along PC511A and NFS roads 22N53, 21N18A and 21N42Y to mitigate short term increases in sedimentation from operations.
Alternative D (Preferred): Alternative D is designed to fulfill land management direction as described in the Plumas National Forest Land and Resource Management Plan (PNF LRMP) (USDA 1988) as amended by the Sierra Nevada Forest Plan Amendment (SNFPA) FSEIS and ROD (USDA 2004a, 2004b) and responds to the relevant issue for potential cumulative watershed effects. Alternative D proposes road improvements, decomissioning and obliteration, along with integrated ecological fuels and vegetation treatments; beneficial to promoting watershed health. *Alternative D proposes*: 859 acres of variable density thinning and 76 acres of thinning from below; 278 acres of mastication; 1,401 acres of hand thin, pile, and burn; 71 acres of hand thin, grapple pile, and burn; 3,598 acres of prescribed fire, including 331 acres within the federally-administered Valley Creek Special Interest Area (SIA); 20.3 miles of NFS road would be improved, decommissioned or obliterated. Wood by-products from these treatments are expected to produce 4.6 million board feet of commercially-valuable timber, requiring 3.6 miles of NFS classified road reconstruction, 2 miles of unclassified road construction (closed post operations) and the construction of 24 new landing sites.

The Responsible Official for the Sugarloaf Project, Forest Supervisor of the Plumas National Forest, Earl W. Ford, will decide whether to implement the Sugarloaf Project as identified in the Proposed Action, implement the project based on Alternatives to the Proposed Action, or not implement the project at this time.

Major conclusions include:

- Alternative A
  - Flame length is predicted between 1–100 feet and predicted fire types are surface, passive and active if not treated (100 percent); 92 percent of the NFS lands analyzed are classified as Condition class 3, in which vegetation composition, structure, and fuels have a high departure from the natural fire regime and predispose the system to high risk of loss of key ecosystem components. The steep Slate Creek and Rabbit Creek drainages align with southwest prevailing wind direction, which would tend to funnel the flame front towards the town of LaPorte and homeowner communities immediately to the north;
  - Predicted 100 percent stands retain all trees greater than 24 inches DBH and minimum average 50 percent canopy cover;
  - Predicted 100 percent of California Wildlife Habitat Relationship (CWHR) vegetative types 4M, 4D and 5M retained (see Table 3.12 for definitions).
  - No effect to Federal listing or loss of viability for the following Forest Service Sensitive species: California spotted owl, Northern Goshawk, Pacific Marten, Fisher, Townsend big-eared bat, Pallid bat; Sierra Nevada (Mountain) yellow-legged frog, Pacific pond turtle and Foothill yellow-legged frog;
  - One subwatershed would continue to be over the threshold of concern (TOC) and five subwatersheds may continue to approach the TOC (recovery is uncertain as the potential for natural and human caused disturbances is likely);
  - No potential to effect effective soil cover because mechanical thin, group selections, mastication and prescribed burning would not occur;
  - No effect to Forest Service Sensitive plant species known within the project area: *Peltigera hydrothyria* (a lichen), *Botrychium crenulatum*, *Cypripedium fasciculatum*, *Lewisia kelloggii* ssp. *hutchisonii*, *Lupinus dalesiae*, and *Phaeocollybia olivacea* (a fungus);
  - No sawlog volume or biomass would be generated;
  - No direct or indirect effects to heritage resources, as no project related activities would occur to impact known sites;

- No additional emissions, as there would be no mechanical equipment use or prescribed burning.

- No improvement to watershed health, as road generated soil erosion would continue to promote sedimentation and impacts to aquatic habitats.

- Alternative B

  - Flame length is predicted between 1-4 feet and the predicted fire behavior is surface fire in treated areas (87 percent); DFPZs and Groups Selections (GSs) interior DFPZs would provide connectivity between the existing fuel treatments of Bald Onion, South fork DFPZs Poverty Hill and LaPorte HFR projects;

  - Predicted 43 percent stands retain all trees greater than 24 inches DBH and 19 percent stands retain greater than 50 percent canopy cover;

  - Predicted 30 percent CWHR 4M and 21 percent of 5M net retained, with 51 percent 4D removed;

  - May affect individuals, but are not likely to result in a trend toward Federal listing or loss of viability for the following Forest Service Sensitive species: California spotted owl and Northern goshawk, Pacific Marten, Townsend big-eared bat, and Pallid bat;

  - May affect species, but is not likely to contribute to the need for Federal listing or result in loss of viability for the Fisher;

  - May impact individuals of Pacific pond turtle and Foothill yellow-legged frog but is not likely to cause a trend toward Federal listing or a loss of viability;

  - No effect to Sierra Nevada (Mountain) yellow-legged frog;

  - Three subwatersheds would be pushed over their thresholds of concern (TOC) and one subwatershed would continue pushing further into percent of TOC;

  - Greater potential to effect effective soil cover associated with DFPZ mechanical thin and group selections treatments;

  - No effect to Forest Service Sensitive plant (lichen) species *Peltigera hydrothyria* as no project related activities will impact known occurrences of this rare species;

  - May impact individuals but not likely to cause a trend toward federal listing or loss of viability for the following Forest Service Sensitive plant species: *Botrychium crenulatum*, *Cypripedium fasciculatum*, *Lewisia kelloggii* ssp. *hutchisonii*, *Lupinus dalesiae*, and *Phaeocollybia olivacea* (a fungus);

  - Predicted levels of sawlog volume is are 5.8 million board feet (mmbf);

- No direct or indirect effects to heritage resources, as no project related activities would occur to impact known sites;
- Of the action Alternatives, predicts the least emission because there is more mechanical thinning reducing the amount of material to be burned;
- Beneficial to watershed health improvements, as up to 4.9 miles of road reconstruction (NFS roads PC511A, 22N53, 21N18A, and 21N42Y), 4.9 miles of temporary road reconstruction, and 10.5 miles of road decommissioning would occur to lower sedimentation and impacts to aquatic habitats.

- Alternative C
  - Flame length is predicted between 1-4 feet and the predicted fire type is surface fire in treated areas (72 percent); at the landscape level, fuel treatments would provide connectivity between the existing fuel treatments of Bald Onion, South fork DFPZs Poverty Hill and LaPorte projects;
  - Predicted 72 percent stands retain all trees greater than 24 inches DBH and 40 percent stands retain greater than 50 percent canopy cover;
  - Predicted 58 percent CWHR 4M net retained, with 49 percent 4D removed;
  - Same determinations for wildlife terrestrial species as listed in Alternative B;
  - Same determinations for aquatic wildlife species listed in Alternative B;
  - Same determinations for Forest Service Sensitive plant species as listed in Alternative B;
  - 1 subwatershed would continue approaching its TOC, 3 subwatersheds would be pushed over their TOC, and 1 subwatershed would continue pushing further into percent of TOC;
  - Predicted levels of sawlog volume is 5.3 mmbf;
  - No direct or indirect effects to heritage resources, as no project related activities would occur to impact known sites;
  - No improvement to watershed health, as road generated soil erosion would continue to promote sedimentation and impacts to aquatic habitats.

- Alternative D
  - Flame length is predicted between 1-4 feet and the predicted fire type is surface fire in treated areas (89 percent); at the landscape level, fuel treatments would provide connectivity between the existing fuel treatments of Bald Onion, South fork DFPZs Poverty Hill and LaPorte projects;

- Predicted 87 percent of stands retain all trees greater than 24 inches DBH and 42 percent stands retain greater than 50 percent canopy cover;
- Predicted 42 percent 4M and 3 percent 5M net retained, with 35 percent 4D removed;
- Same determinations for wildlife terrestrial and aquatic species as listed in Alternative B;
- Same determinations for Forest Service Sensitive plant species as listed in Alternative B;
- 3 subwatersheds would be pushed over their thresholds of concern (TOC) and 1 subwatershed pushed further into percent of TOC, similar to Alternative B;
- Predicted levels of sawlog volume is 4.6 mmbf;
- No direct or indirect effects to heritage resources, as no project related activities would occur to impact known sites;
- Beneficial to watershed health improvements, as up to 4.9 miles of road reconstruction (NFS roads PC511A, 22N53, 21N18A, and 21N42Y), 2.8 miles of temporary road reconstruction, and 10.5 miles of road decommissioning would occur to lower sedimentation and impacts to aquatic habitats.

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Contents

CHAPTER 1 — PURPOSE AND NEED FOR ACTION

CHAPTER 2 — ALTERNATIVES, INCLUDING THE PROPOSED ACTION

CHAPTER 3 — AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

CHAPTER 4 — COORDINATION, COLLABORATION AND CONSULTATION

Appendix

Figures

Tables